

### **REMARKS**

The present application has claims 1-15 pending. Claims 7, 8, 11 and 12 have been previously withdrawn from consideration; Applicants have now canceled these claims herein. Applicants have also herein amended claims 1 and 13-15.

Support for the amendment of claims 1 and 15 may be found throughout the specification, but in particularly in Figures 1 and 2. The amendments to claims 13 and 14 are relatively minor in nature and were made to improve the clarity of the claims. No new matter has been added by the amendments made herein.

In the October 13, 2010 Office Action, the Examiner rejects the claim 15 under 35 USC §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Examiner alleges that the claim limitation “wherein said membrane does not contain a carbon-based substrate” is not supported by the specification. Applicants have herein amended claim 15 to delete the limitation objected to by the Examiner and believe the rejection should now be withdrawn.

The Examiner also rejects the claims 13 and 14 under 35 USC §112, second paragraph, as allegedly being indefinite. Applicants have herein amended claims 13 and 14 to improve their clarity and believe that the rejection has been overcome.

In the October 13<sup>th</sup> Office Action, the Examiner also rejects claims 1-3, 5-6, 13 and 15 under 35 USC §102(b) as allegedly anticipated by Steck (EP 0586461 B1). Additionally, the Examiner rejects claims 4, 9, 10 and 14 under 35 USC §103(a) as unpatentable over Steck in combination with secondary reference Fukuoka, *et al.* (JP 10-154521). Applicants disagree with the Examiner's positions, but nevertheless have

amended the pending claims to further restrict the claimed invention in order to further distinguish the invention from the cited references.

The Examiner appears to have the opinion that the Steck reference -- in the peripheral edge regions of the catalyst layers --discloses the specific sequence of layers set forth in the claimed invention: that is, membrane-catalyst layer-protective film. Applicants disagree but have amended claim 1 to require that the specified layer sequence be present wherever the protective film overlaps the active area, with no interposed layers. Additionally, Applicants have amended claim 1 to also require that the protective film be in direct contact with the catalyst layers wherever the protective film overlaps the active area. Steck does not disclose these additional limitations now present in amended claim 1 above.

The Examiner appears to rely entirely on Figure 4 of Speck for the assertion that the layer sequence “membrane-catalyst layer-protective film” exists at the peripheral edge regions of the catalyst layers. Applicants have not found any other disclosure in Speck which would support this assertion. According, it appears that in the Examiner’s opinion Figure 4 of Speck fully supports and enables the asserted interpretation.

Figures 1 and 2 of Applicants’ application clearly show that the protective film is in direct contact with the catalyst layers and that the layer sequence “membrane-catalyst layer-protective film” is present wherever the protective film overlaps the active area – see e.g., Figure 1. The figures of the present application also show that there are no interposed layers between the protective film and the catalyst layers. One of ordinary skill in the art field would clearly understand these features from the present disclosure and the associated figures, and would know that Applicants had the presently claimed invention in their possession at the time the application was filed.

Applicants have also amended claim 15 in accordance with comments and/or suggestions made by the Examiner in the prior Office Action (January 29, 2010 Final Office Action). Specifically, Applicants have amended claim 15 to require that the protective film be in direct contact with the catalyst layers and to require that the claimed catalyst-coated membrane consists essentially of a catalyst-coated ionomer membrane and at least one layer of protective film -- thereby excluding structures such as that of Speck which contain a carbon-based substrate between the protective film and the catalyst layers.

As indicated in prior responses, Steck discloses a different type of MEA technology -- one that is based on the use of gas diffusion electrodes (GDE). The electrodes of Steck are formed by applying catalysts to a carbon-based substrate and then applying the gasket material to the other side of the substrate. Thus, even if the gasket material of Steck is considered the protective film of the claimed invention, then the protective film in Steck would be adjacent to, and in contact with, the carbon-based substrate -- not with the catalyst layer.

Moreover, the Speck structure cannot be modified to use the structures or methods of the present invention -- which is directed towards catalyst-coated membranes (CCMs) in which the membrane is coated with catalyst layers on both sides and then applying a protective film directly to the catalyst-coated membrane. The structures of the present invention and of Speck are mutually exclusive. Using the structures and methods of the present invention, one would coat the membrane with catalyst layers and then apply the protective film -- there would be no way to interpose the carbon-based substrate of Speck between the catalyst layers and the protective film in order to achieve the Speck structure. Alternatively, using the structures and methods of Speck, one would coat a carbon-based substrate with catalyst and then join the substrate with a membrane -- there would be no way to interpose a protective film between the catalyst and the carbon-based substrate in order to achieve the structures of the present invention.

Amended claim 1 now requires that a certain sequence of layers be present throughout the active area overlapped by the protective film: membrane-catalyst layer-protective film. The structure of Steck does not meet this requirement. The sequence of layers in the Steck structure is “membrane-catalyst layer-carbon based substrate-protective film” for the vast majority of the active area (even if one accepts the Examiner’s assertion that the sequence membrane-catalyst layer-protective film exists at the peripheral edge regions of the catalyst layers).

Amended claim 15 now requires that the CCM consists essentially of a catalyst-coated ionomer membrane and at least one layer of protective film. The structure of Steck does not meet this requirement either since the disclosed structure has an interposed carbon-based substrate.

In light of the claim amendments and the remarks presented above, Applicants maintain that claims 1 and 15 are novel over, and not anticipated by, the disclosure of Steck. Further, since secondary reference Fukuoka also fails to disclose the added claim limitations, amended claims 1 and 15 are not rendered obvious by Steck in combination with Fukuoka, and are thus patentable over these references. The remaining dependent claims contain all the limitations of claim 1 and thus are patentable over Steck and Fukuoka for the same reasons as outlined above for claim 1.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §§102(b) and 103(a) set forth in the October 13, 2010 Office Action and respectfully solicit allowance of the present application.

No fee is deemed due for this amendment, other than the fee for the requested two-month extension of time. If any fees are due, or an overpayment has been made, please charge, or credit, our Deposit Account No. 50-5371 for such sum.

If the Examiner has any questions regarding the present application, the Examiner is cordially invited to contact Applicants' attorney at the telephone number provided below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John J. Santalone", is written over a horizontal line.

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